

Amendments to the Claims:

This listing of claims will replace all prior listings of claims in the application.

Listing Of Claims:

Claim 1 (currently amended): A method of detecting from a vehicle variations in path on a road having a surface and road edges comprising:

- at least partly illuminating a road scene near the vehicle;
 - taking an image of a road scene having a plurality of pixels; ~~unfolding in front of the vehicle and at least partly illuminated by the vehicle,~~
 - determining, for each of the pixels ~~[[pixel]]~~ in the image, a light decrease gradient~~[[,]]~~;
 - analyzing these light decrease gradients and determining an image of the road edges~~[[,]]~~;
 - ~~- mathematically discriminating the light decrease gradients from the image of the road edges, and~~
 - calculating a number of the pixels of the image whose light decrease gradient is oriented from a left towards a center of the image and a number of the pixels of the image whose light decrease gradient is oriented from a right towards the center of the image; and
 - ~~- analyzing this discrimination by comparing the distribution of luminosity and~~
- determining an angle of a bend of the road by comparing a distribution of luminosity of the pixels.

Claim 2 (previously presented): A method according to Claim 1, wherein the light decrease gradient of an elementary image part corresponds to a decrease vector of light formed between adjacent pixels.

Claim 3 (previously presented): A method according to Claim 2, wherein the analysis of the light decrease gradients comprises a thresholding of the decrease vectors and an elimination of the decrease vectors outside the threshold.

Claim 4 (currently amended): A method according to Claim 2, wherein the ~~mathematical discrimination~~ analysis step comprises counting ~~[[the]]~~ a number of elementary image parts having a vector oriented in one direction and ~~[[the]]~~ a number of elementary image parts have a decrease vector oriented in ~~[[the]]~~ an opposite direction.

Claim 5 (currently amended): A method according to Claim ~~[[4]]~~³, wherein the ~~counting~~ calculating of the ~~elementary image parts~~ number of the pixels is carried out pixel column by pixel column, or by groups of pixel columns.

Claim 6 (currently amended): A method according to Claim 1, wherein the analysis ~~of~~ ~~the discrimination~~ is carried out by a neural network.

Claim 7 (currently amended): A method according to Claim 6, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical~~ ~~discriminations~~ distributions of luminosity of the pixels.

Claim 8 (previously presented): A system for detecting a bend in a road from a vehicle implementing the method according to Claim 1, comprising a camera mounted in the vehicle, an image processing unit and a neural network.

Claim 9 (previously presented): A system of detecting a bend according to Claim 8, wherein the neural network is integrated in the image processing unit.

Claim 10 (previously presented): A system for detecting a bend according to Claim 8 that is connected to a vehicle headlight, movable or fixed and modulated for intensity.

Claim 11 (currently amended): A method according to Claim 3, wherein the ~~mathematical discrimination~~ analysis step comprises counting ~~[[the]]~~ a number of elementary image parts having a vector oriented in one direction and ~~[[the]]~~ a number of elementary image parts have a decrease vector oriented in ~~[[the]]~~ an opposite direction.

Claim 12 (currently amended): A method according to Claim 2, wherein the analysis ~~of the discrimination~~ is carried out by a neural network.

Claim 13 (currently amended): A method according to Claim 3, wherein the analysis ~~of the discrimination~~ is carried out by a neural network.

Claim 14 (currently amended): A method according to Claim 4, wherein the analysis ~~of the discrimination~~ is carried out by a neural network.

Claim 15 (currently amended): A method according to Claim 5, wherein the analysis ~~of the discrimination~~ is carried out by a neural network.

Claim 16 (currently amended): A method according to Claim 1, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical discriminations~~ distributions of luminosity of the pixels.

Claim 17 (currently amended): A method according to Claim 2, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical discriminations~~ distributions of luminosity of the pixels.

Claim 18 (currently amended): A method according to Claim 3, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical discriminations~~ distributions of luminosity of the pixels.

Claim 19 (currently amended): A method according to Claim 4, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical~~ distributions of luminosity of the pixels.

Claim 20 (currently amended): A method according to Claim 5, wherein the neural network has previously learnt geometries of bends and corresponding ~~mathematical~~ distributions of luminosity of the pixels.

Claim 21 (previously presented): A system for detecting a bend in a road from a vehicle implementing the method according to Claim 2 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

Claim 22 (previously presented): A system for detecting a bend in a road from a vehicle implementing the method according to Claim 3 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

Claim 23 (previously presented): A system for detecting a bend in a road from a vehicle implementing the method according to Claim 4 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

Claim 24 (previously presented): A system for detecting a bend in a road from a vehicle implementing the method according to Claim 5 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

Claim 25 (previously presented): A system for detecting a bend in a road from a vehicle implementing the method according to Claim 6 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

Claim 26 (previously presented): A system for detecting a bend in a road from a vehicle implementing the method according to Claim 7 comprising a camera mounted in the vehicle, an image processing unit and a neural network.

Claim 27 (previously presented): A system for detecting a bend according to Claim 9 that is connected to a vehicle headlight, movable or fixed and modulated for intensity.

Claim 28 (previously presented): A method according to Claim 1, further comprising controlling lateral orientation of at least one vehicle headlight based on the determination of the angle of the road.

Claim 29 (currently amended): A method according to Claim 1, wherein the analysis step of mathematically discriminating comprises generating a first curve corresponding to the number of the pixels having a decrease vector oriented from the left of the image towards the center of the image, and generating a second curve corresponding to the number of the pixels having a decrease vector oriented from the left of the image towards the center of the image.

Claim 30 (currently amended): A method according to Claim 29, wherein the step of analyzing ~~the discrimination~~ comprises deducing [[the]] a shape of the road ahead based on [[the]] a form of the first and second curves.